

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 Claim 1 (currently amended): Method for measuring a
2 talking quality of a communication link in a
3 communications network, the method comprising:
4 _____ a main step of subjecting a degraded speech signal
5 $s'(t)$ with respect to a reference speech signal $s(t)$ to an
6 objective measurement technique (32) for measuring a
7 perceptual quality of speech signals, and producing a
8 quality signal q which represents an estimated value
9 concerning the talking quality degradation;
10 _____ the degraded speech signal comprising a returned
11 signal $r(t)$;
12 in which the objective measurement technique comprises a
13 step of modelling masking effects in consequence of noise
14 present in the returned signal comprising the
15 determination of a threshold noise level, by determining a
16 local minimum value of the degraded speech signal $s'(t)$.

1 Claim 2 (original): Method according to claim 1, in which
2 the reference speech signal $s(t)$ comprises a silence
3 period and the threshold noise level is determined in the
4 part of the degraded speech signal $s'(t)$ corresponding to
5 the silence period in the reference speech signal $s(t)$.

1 Claim 3 (original): Method according to claim 2, in which
2 the silence period is provided at the start of the
3 reference speech signal $s(t)$.

1 Claim 4 (original): Method according to claim 3, in which
2 the silence period has a duration of at least 0.5 sec,
3 more preferably at least 0.9 sec.

1 Claim 5 (original): Method according to claim 1, in which
2 the threshold noise level is estimated as local minimum
3 values of successive parts of the degraded speech
4 signal $s'(t)$.

1 Claim 6 (original): Method according to claim 1, in which
2 the threshold noise level is estimated as the local
3 minimum value of the degraded speech signal $s'(t)$ in a
4 predefined value range.

1 Claim 7 (currently amended): Method according to ~~one of~~
2 ~~the preceding claims~~ claim 1, in which the main step
3 comprises:

4 ———a first processing step of processing the
5 degraded speech signal $s'(t)$ and generating a first
6 representation signal $R'(t, f)_{i\tau}$

7 ———a second processing step of processing the
8 reference speech signal $s(t)$ and generating a second
9 representation signal $R(t, f)_{i\tau}$

10 ———a step of subtracting (32a) the first
11 representation signal from the second representation
12 signal as to produce a difference signal $D(t, f)_{i\tau}$

13 ——a first substep of producing (41) an estimated
14 value N_e of the loudness of the noise present in the
15 returned signal \underline{r} ; and

16 ——a second substep of noise suppression (42)
17 carried out on the difference signal using said produced
18 estimated value N_e as to produce the modified difference
19 signal $D'(t, f)$; and

20 ——a step of integrating (32c) the modified
21 difference signal $D'(t, f)$ with respect to frequency and
22 time as to produce the quality signal q .

1 Claim 8 (currently amended): Device for measuring a
2 talking quality of a communication link in a
3 communications network (10), the device comprising
4 measurement means (22; 31, 36) connected to the
5 communication link, the measurement means being arranged
6 to subject a degraded speech signal $s'(t)$ with respect to
7 a reference speech signal $s(t)$ to an objective measurement
8 technique for measuring a perceptual quality of speech
9 signals, and producing a quality signal (q) which
10 represents an estimated value concerning the talking
11 quality degradation; and

12 ____the degraded speech signal comprising a returned
13 signal $r(t)$; and
14 in which the measurement means (22; 31, 36) are arranged
15 to execute the objective measurement technique by
16 modelling masking effects in consequence of noise present
17 in the returned signal in which the objective measurement
18 technique comprises the determination of a threshold noise
19 level by determining a local minimum value of the degraded
20 speech signal $s'(t)$.

1 Claim 9 (original): Device according to claim 8, in which
2 the reference speech signal $s(t)$ comprises a silence
3 period and the measurement means are further arranged to
4 determine the threshold noise level in the part of the
5 degraded speech signal $s'(t)$ corresponding to the silence
6 period in the reference speech signal $s(t)$.

1 Claim 10 (original): Device according to claim 9, in which
2 the silence period is provided at the start of the
3 reference speech signal $s(t)$.

1 Claim 11 (original): Device according to claim 10, in
2 which the silence period has a duration of at least
3 0.5 sec, more preferably at least 0.9 sec.

1 Claim 12 (original): Device according to claim 8, in which
2 the measurement means are arranged to estimate the
3 threshold noise level as local minimum values of
4 successive parts of the degraded speech signal $s'(t)$.

1 Claim 13 (original): Device according to claim 8, in which
2 the measurement means are arranged to estimate the
3 threshold noise level as the local minimum value of the
4 degraded speech signal $s'(t)$ in a predefined value range.

1 Claim 14 (currently amended): Device according to ~~one of the~~
2 ~~claims 8 through 13~~ claim 8, in which the device comprises:
3 —first processing means (39) for processing the
4 degraded speech signal $s'(t)$ and generating a first
5 representation signal $R'(t,f)$, the first representation
6 signal $R'(t,f)$ being a representation signal of a signal

7 combination of the talker speech signal and the returned
8 signal i_{τ}

9 —second processing means (38) for processing the
10 talker speech signal $s(t)$ and generating a second
11 representation signal $R(t, f)_{i_{\tau}}$

12 —combining means (32) for combining the first and
13 second representation signals as to produce said output
14 signal q , the combining means including

15 —subtracting means (40) for subtracting the
16 first representation signal from the second representation
17 signal as to produce a difference signal $D(t, f)_{i_{\tau}}$

18 —modelling means (41, 42) for modelling the
19 masking effects carried out on the difference signal as to
20 produce a modified difference signal, including means (41)
21 for producing an estimated value N_e of the loudness of the
22 noise present in the returned signal, and means (42) for
23 carrying out a noise suppression on the difference signal
24 using said produced estimated value N_e , and for producing
25 the modified difference signal $D'(t, f)_{i_{\tau}}$ and

26 —integrating means (43) for integrating the
27 modified difference signal with respect to frequency and
28 time as to produce the quality signal q .